

# Attitude toward Plagiarism among Postgraduate Students of a Medical Institute in South India

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## Abstract

**Background:** Academic integrity is an essential quality to uplift the standards of higher education and plagiarism destroys it. **Aims:** This study aimed to explore the attitude toward plagiarism (ATP) and its association with gender, hours of Internet use among postgraduate (PG) students in a tertiary care teaching and research institute in South India. **Methods:** PG students from different disciplines ( $N = 383$ ) formed the study participants for cross-sectional study and we used the ATP questionnaire (ATP-Q) that consisted of 29 statements measuring three attitudinal factors: positive, negative attitude, and subjective norms. Participants were given pro forma to fill the ATP-Q and data collected immediately. **Results:** Female students formed 58.7% of the participants and 41% were in their 1<sup>st</sup> year of the course. Our study noted that only 19.58% had the attitude that seems to approve plagiarism. Their scores on the questionnaire fell in the low-score category of positive attitude factor, low-score category of subjective norms factor, and high-score category of negative attitude factor. We did not see any association between approving ATP (categorized as Yes or No) with gender or hours of Internet use. However, a significant proportion of students in the 3<sup>rd</sup> year had approving ATP compared to those in the preceding years (Chi-square (df),  $p$ : 18.05(2),  $<.001$ ). Participants stated that increasing awareness and training on scientific writing skills as the most common ways to reduce plagiarism. **Conclusion:** Nearly one-fifth of PG students in the medical college seem to have attitude of approval of plagiarism, with majority having showed mixed ATP. Internet use and gender did not show any association with ATP. Increasing awareness and improving scientific literacy are suggested to minimize plagiarism among PG students in a medical institute.

**Keywords:** Attitudes and beliefs, education, ethics, plagiarism, postgraduate students

## INTRODUCTION

Plagiarism is the practice of using someone else's ideas, language, or other original material without acknowledging its source. The above definition applies to all forms of texts published in print or online.<sup>[1]</sup> Plagiarism interferes with critical thinking, investigative spirit toward research, can affect the reputation of any educational or research institute.<sup>[2,3]</sup> However, students do not consider it as a serious issue.<sup>[4-7]</sup>

Literature suggests there are personal factors and institutional factors influencing the attitude and extent of plagiarism.<sup>[8-12]</sup> Gender also seem to play role in this. Men tend to show higher pro-plagiarism attitude than women.<sup>[13]</sup> This may be explained by the notion that women tend to be highly moral and more adherent to ethical values than men.<sup>[14]</sup> However, increased competence in academia might be changing this notion and there may not be gender influence on attitude toward plagiarism (ATP). Apart from gender, many believe

that Internet era has contributed a lot to plagiarism. An increase in Internet use with easy access to academic resources has increased plagiarism.<sup>[11]</sup> However, this is debatable.

Attitude is a latent variable that manifest in the form of thoughts, emotion, and action we carry on toward an object, or practice. Intentions to perform behaviors can be predicted with high accuracy from attitudes toward the behavior.<sup>[15]</sup> Thus, measuring ATP early among postgraduate (PG) students can help predict behavior and take steps to prevent the behavior.

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We undertook this study to explore the ATP among PG students belonging to various health disciplines in a tertiary care teaching and research institute. The study also assessed the link between attitude to plagiarism with gender, year of academic course, and hours of Internet use. At the end, we collected opinion from each participating student on common reason for plagiarism and way to avoid plagiarism.

## METHODS

We did our cross-sectional, descriptive study in Jawaharlal Institute of Postgraduate Medical Education and Research, a tertiary care institute located in Puducherry, India.

### Setting

Participants were PG students ( $N = 383$ ) of medical, nursing, and allied health disciplines. Students of either gender present during the survey were included in the study using the convenience sampling technique. None of the participants had undergone any workshop or training on plagiarism.

### Procedure

We used the ATP questionnaire, a validated instrument.<sup>[2]</sup> The ATP is a self-administered questionnaire that consists of 29 statements, and each statement is measured on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). It comprises three attitudinal factors (positive attitude-12 statements, negative attitude-7 statements, and subjective norm attitude-10 statements). The higher the score in each attitudinal factor higher the endorsement of that attitude. Each factor's score range is divided into three equal parts representing low-, moderate-, and high- score categories.

### Operational definition of the “attitude of approval toward plagiarism”

To make the interpretation of the scores more meaningful, in our study, we categorized students into two groups-attitudes of approval toward plagiarism (Yes or No). Students within a low-score category (12–28) of the positive attitude factor, low-score category (10–23) of the subjective norms factor and a high-score category (27–35) of the negative attitude factor of the ATP scale were considered as having a healthy ATP indicating as having attitude of non-approval toward plagiarism (attitude of approval toward plagiarism: No). In other words, students falling in the high-score category of the positive attitude factor, or subjective norms factor and falling in the low-score category of the negative attitudinal factor seem to be having an attitude of approval toward plagiarism (attitude of approval toward plagiarism: Yes).

We collected apart from sociodemographic data (age, gender, course, and year of PGs), average hours of daily Internet use and purpose of Internet use in the past 1 month. After completing the scales, they were asked to mention one important reason why students tend to plagiarise and one significant way to avoid the same.

We sought prior approval from Institute Ethics Committee before the commencement of the study. Each student gave written informed consent after reading the study information sheet. Each student completed the questionnaire independently. Privacy and confidentiality were assured throughout the study. Questionnaire was administered inside the classroom, and also outside the classroom in the campus. Completed Questionnaire was collected immediately. In total, 43 PG students did not take part either due to their refusal or due to their non-availability on the day of data collection. Data were collected over six-week period in the September and October months of 2019.

### Statistical analysis

Data was analysed using Statistical Package for Social Sciences (SPSS) 18 software (SPSS Inc. Released 2009. PASW Statistics for Windows, Version 18.0. Chicago, Illinois, USA: SPSS Inc.) We categorized each student score under each attitudinal factor into three groups: Low, medium and high. In our study, we re-categorized entire participants as those with the attitude of approval (approvers) and those not having the attitude of approval (non-approvers) toward the plagiarism based on the category of scores in the three different attitudinal factors as explained earlier in the methodology section. Then, we tested for association between the approval of plagiarism status with gender, year of the course with Chi-square tests, and for an association between the approval of plagiarism status with time spent on the Internet using independent Student's *t*-test. Any statistical test result with a corrected  $p < .008$  was considered statistically significant.

## RESULTS

Overall, we recruited 383 PG students pursuing different medical and paramedical courses [Table 1]. Only MD, MS

**Table 1: Sociodemographic Data (N=383)**

Variable name	Mean $\pm$ SD/n (%)	Median (IQR)
Age (years) (range: 20-41)	26.16 $\pm$ 2.9	26 (24-27)
Gender		
Male	158 (41.3)	
Female	225 (58.7)	
Course		
M.Sc Nursing	69 (18)	
MPH, MD, MS	270 (70.5)	
M.Sc Allied health Science, M.Sc Physiology	44 (11.5)	
Year of postgraduation		
First-year	157 (41.0)	
Second-year	164 (42.8)	
Third-year	62 (16.2)	
Internet use		
Academic purpose also	355 (92.7)	
No academic purpose	28 (7.3)	
Hours of Internet use per day (range: 1-16)	4.06 $\pm$ 2.80	3 (2-5)

SD: Standard deviation, IQR: Interquartile range, MSc: Master of Science, MPH: Master of Public Health, MD: Doctor of Medicine

courses are of 3 years, while the rest are of 2-year duration. The median duration of Internet use per day was three hours. Most of them used the Internet for various purposes, including academic purposes.

Only around 8.6% of the participants endorsed healthy ATP on the positive attitude subscale, 9.7% endorsed healthy ATP on the negative attitude subscale, and 19.3% endorsed healthy ATP on the subjective norm's subscale. Most participants had a moderate category score on all the three attitudinal factors, suggesting a cautious reply and can be considered fence-sitters [Table 2]. Only 19.58% of the participants had the attitude of approval toward plagiarism, as per our operational definition described under the methodology.

Chi-square test showed a significant association between attitude of approval status toward plagiarism and, year of the course, and not with the gender. *Post hoc* Bonferroni correction analysis revealed a significantly high proportion of the PG students with attitude of approval toward plagiarism found in the 3<sup>rd</sup> year compared to the first 2 years [Table 3]. There was no significant association of attitude of approval towards the plagiarism with the average hours of Internet use per day.

Students stated that lack of time and inadequate knowledge as the two most common reasons for plagiarism [Table 4].

Among the various ways to prevent plagiarism, students stated the following two as most important: Creating awareness, its seriousness among students and improving the student's scientific writing and reading skills.

## DISCUSSION

Our study was done in a medical institute in South India and assessed PG students' ATP. We tried to find association between genders, hours of Internet use with the binary categorized status of attitude of approval toward plagiarism as Yes or No. At the end, we asked them to state important reason for plagiarism and way to avoid plagiarism.

Most of our students supported, positive statements toward plagiarism, supported statements that endorsed plagiarism as subjective norms, and also supported statements of negative view toward plagiarism. Thus, majority seem to have mixed ATP. Overall only 19.58% of the students in our study seem to have the attitude that approves plagiarism. Existing literature suggest that prevalence of plagiarism varies between 23.8% and 38%.<sup>[13,16,17]</sup> Although we assessed only the ATP and not actual instances of plagiarism, these attitudes are likely to lead to such behavior.<sup>[15]</sup> Social scientists have shown that attitude of individual's matters in public opinion formation. A similar opinion of at least 25% individuals on any controversial issue

**Table 2: Profile of attitude toward of plagiarism among postgraduate students (N=383)**

Attitudinal factors	Categories of scores	n (%)	Mean±SD (range)	Median (IQR)
Positive attitude	Low (12-28)*	33 (8.6)	36.04±6.90 (14-53)	36 (33-42)
	Moderate (29-45)	304 (79.4)		
	High (46-60)	46 (12.0)		
Negative attitude	Low (7-16)	11 (2.9)	22.55±3.09 (11-31)	23 (20-25)
	Moderate (17-26)	335 (87.5)		
	High (27-35)*	37 (9.7)		
Subjective norms	Low (10-23)*	74 (19.3)	29.15±5.38 (10-50)	29 (25-32)
	Moderate (24-37)	291 (76.0)		
	High (38-50)	18 (4.7)		
Attitude of approval toward plagiarism	No	317 (82.8)		
	Yes <sup>#</sup>	75 (19.58)		

\*Healthy attitude toward plagiarism, i.e., disapproval of the plagiarism, <sup>#</sup>Overall approvers of plagiarism (those in the high-score category in positive attitude, subject norms factors, and low-score category on negative attitude factors). SD: Standard deviation, IQR: Interquartile range

**Table 3: Association of the approval status of plagiarism with the gender, year of the course, and hour of Internet use per day**

Variable	Attitude of approval toward plagiarism		Chi-square value (df)/t value (df)	p
	No, n (%)	Yes, n (%)		
Gender				
Male	128 (81.00)	30 (19.00)	0.581 (1)	0.446
Female	189 (84.00)	36 (16.00)		
Year				
First-year	144 (91.70)	13 (8.30)	18.05 (2)	0.00012*
Second-year	130 (79.30)	34 (20.70)		
Third-year	43 (69.40)	19 (30.60)*		
Internet hours spent per day	3.98±2.75	4.41±3.00	-1.05 (89.14)	0.293

\*Significant at Bonferroni corrected  $p < .008$ . A significantly high proportion of approvers in the 3<sup>rd</sup> year

**Table 4: Reasons for plagiarism and ways to avoid as stated by the students**

Reasons for plagiarism	n (%)	Ways to avoid plagiarism	n (%)
Lack of time	127 (33.2)	Training and guidance	131 (34.2)
Inadequate knowledge	79 (20.6)	Read, understand, and then write	68 (17.8)
Lack of Interest	42 (11.0)	by giving proper citation	46 (12.0)
Language problem	40 (10.4)	Adequate time	42 (11.0)
Other reasons (lack of curiosity, workload, time-saving, laziness, lack of guidance)	95 (20.8)	Plagiarism rectifier software	40 (10.4)
		Other ways (small punishment, improving language skills, select simple topics)	56 (14.6)

collectively can tip the opinion of the majority in the same direction.<sup>[18]</sup> Hence, we suggest that Institutes can target to keep the pro-plagiarism attitude to below 25%.

### Relationship between attitude of approval toward plagiarism and gender

Few previous studies reported male students having had more pro-plagiarism attitude.<sup>[6,13,19-22]</sup> While in our study, we did not find any influence of gender on ATP. These gender differences may result from specific personal characteristics of men and women, not only in the field of education but also in society in general. We speculate that as society values and gender roles are changing, the difference in male and female may be disappearing. Only replication studies with larger research participants may settle this debate.

### Association between attitude toward plagiarism and the year of the course

A significant proportion of students had an approving ATP in the 3<sup>rd</sup> year of the course, compared to that in the first or 2<sup>nd</sup> year students. Some studies have reported that positive ATP decreased in students with more years in the course and older age.<sup>[22,23]</sup> We did not find any association with age. Hence, instead of the age, the contexts of the 3<sup>rd</sup> year of the course would have influenced the attitude, students in the 3<sup>rd</sup> year have academic pressure to complete thesis submission, and to prepare for the upcoming prefinal and final exam. As years pass by, and in the 3<sup>rd</sup> year, students tend to become softened toward plagiarism. Change in ATP during the 3<sup>rd</sup> year is an alarming trend.

### Association between attitude toward plagiarism and hours of Internet use

In our study, we found no association between ATP and hours of Internet use. A previous study tried to find whether plagiarism has increased during the Internet era in 2010,<sup>[9]</sup> they did not find such an association supporting our study finding. The availability of technology has helped in plagiarism detection, is considered essential before publication. This would have kept a check on increased plagiarism with increased Internet access.

### Students stated reasons for plagiarism

Our participants stated that lack of time and inadequate knowledge as the two most common reasons for plagiarism [Table 4]. Literature suggests that lack of time with heavy workload as the most common stated reason for plagiarism by medical students and researchers.<sup>[17]</sup>

### Ways to prevent plagiarism: Our students stated the following two as most important ways to prevent plagiarism

Increasing knowledge among students on plagiarism, informing on seriousness of plagiarism as an unethical issue and improving the student's ability to read, understand scientific literature [Table 4]. Existing literature suggests that creating awareness during the 1<sup>st</sup> year by providing leaflets, workshops on academic writing skills, providing enough time for research assignments, and use of software to detect plagiarism may be useful in preventing plagiarism.<sup>[5,10,16,23,24]</sup>

### Limitation

We did not include faculty and PhD scholars actually involved in publishing scientific research papers. Generalizability to another setting may be limited.

### CONCLUSION

Our study noted that 19.6% had the attitude that seems to approve plagiarism. We did not see any association between approving ATP with either gender or hours of Internet use. However, PG students in the 3<sup>rd</sup> year showing pro-plagiarism attitudes seem worrisome.

Increasing awareness among students, and giving adequate time for research assignments may reduce the instances of plagiarism. Conducting scientific writing workshops is one way to address the same. In addition, clear institute guidelines on plagiarism and the use of plagiarism detection software can change the attitude of PGs toward plagiarism.

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### Conflicts of interest

There are no conflicts of interest.

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